# **UNIT 614**

# **SILVER STRAND STATE BEACH**

**GENERAL PLAN** 

November 1983



# San Diego Coastal State Park System General Plan

Volume 9 – Silver Strand State Beach

July 1984



# SILVER STRAND STATE BEACH



State of California-The Resources Agency DEPARTMENT OF PARKS AND RECREATION

This is volume nine of the general plan for nine coastal State Park System units in San Diego County. Below is a list of the nine booklets that comprise the San Diego Coastal State Park System General Plan.

Volume Number	Name
1	Summary and Regional Data
2	Carlsbad State Beach
3	South Carlsbad State Beach
4	Leucadia State Beach
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6	San Elijo State Beach
7	Cardiff State Beach
8	Torrey Pines State Beach and State Reserve
9	Silver Strand State Beach

PARTMENT OF PARKS AND RECREATION

#### TATE PARK AND RECREATION COMMISSION

O. BOX 2390, SACRAMENTO 95811



Resolution 78-83
adopted by the
State Park and Recreation Commission
at its regular meeting in San Diego on
November 4, 1983

WHEREAS, the Director of the Department of Parks and Recreation has presented to this Commission for approval the proposed General Plan for the San Diego Coastal State Park System; and

WHEREAS, this reflects the long-range development plans as to provide for the optimum use and enjoyment of the unit as well as the protection of its quality;

NOW, THEREFORE, BE IT RESOLVED that the State Park and Recreation Commission approves the Department of Parks and Recreation's General Plan for the San Diego Coastal State Park System, which includes South Carlsbad, Carlsbad, Silver Strand, Leucadia, Moonlight, San Elijo, and Cardiff State Beaches; preliminary dated July, 1983, subject to such environmental changes as the Director of Parks and Recreation shall determine advisable and necessary to implement carrying out the provisions and objectives of said plan.

I-2133L

# San Diego Coastal State Park System General Plan Volume 9 - Silver Strand State Beach

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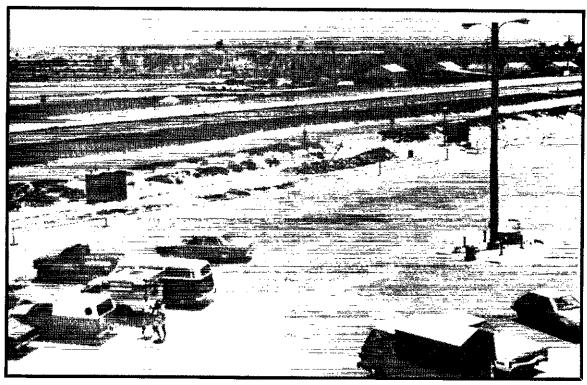
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General Data



Silver Strand State Beach includes 23,500 feet of ocean frontage. . .



. . .and 4,600 feet of San Diego bay frontage.

#### GENERAL DATA ON STILVER STRAND STATE BEACH

Location: On the Pacific Ocean and San Diego Bay, in the city limits of Coronado; on Silver Strand Boulevard (Highway 75) between the U.S. Naval Communication Station on the south and the U.S. Naval Amphibian Base on the north. The unit is 6 miles south of the City of San Diego and 3 miles north of the City of Imperial Beach, on the sand spit separating San Diego Bay from the Pacific Ocean. Access is from Highway 75, which bisects the unit.

Size: 404.38 acres with about 23,500 lineal feet of ocean frontage and 4,600 lineal feet of bay frontage. These figures include 257.26 acres, with 12,700 lineal feet of ocean frontage, leased to the U.S. Navy, the major adjacent landowner, for amphibious warfare training. In addition, the U.S. Navy leases to the state 40 acres with 1,485 lineal feet of bayside frontage.

Existing Facilities: These are located in three major areas. An oceanside day-use area features four parking lots with 1,775 spaces, three comfort stations, five shade ramadas, five lifeguard stands, one concession building, one lifeguard tower and office, and one contact station. A bayside day-use area has three comfort stations, six shade ramadas, six lifeguard stands, one concession building, and 124 picnic tables with ramadas. A nonpublic use area contains two maintenance buildings, the corporation yard, and two employee residences with garages.

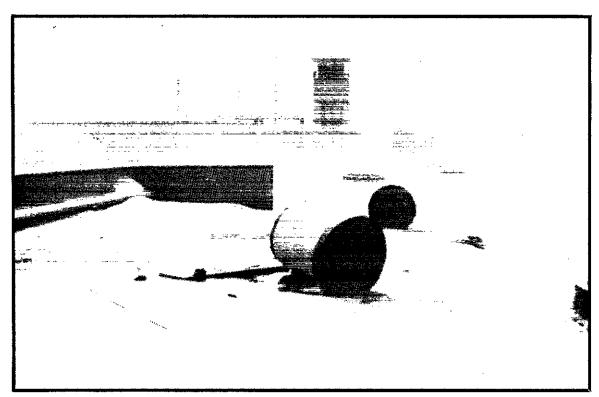
Vegetation: The vegetation type at Silver Strand State Beach is coastal strand, which is rare in San Diego County. In developed areas of the unit, natural vegetation has been displaced by car parking, roads, buildings, and ornamental vegetation. The California Department of Fish and Game's Natural Resource Data Base indicates that six rare or endangered plant species occur in or near Silver Strand State Beach.

<u>Wildlife:</u> The unit provides habitat for shorebirds and gulls. The least tern, an endangered species, historically nested on the strand. However, there is no evidence of current activity.

Historical and Archeological Values: This unit has been extensively surveyed and no archeological or historic sites are known to exist.

Ownership: The initial unit was acquired in 1931. Additional acquisitions, and beach expansion by the deposition of dredging spoils, have expanded the unit to its present size.

Resource Element



Receding ocean beach sand levels expose oceanside development to direct surf attack.

#### RESOURCE ELEMENT

This Resource Element was prepared to meet requirements in Section 5002.2, Subsection (b) of Division 5, Chapter 1 of the Public Resources Code and Chapter 1, Section 4332 of Title 14 of the California Administrative Code. In compliance with this section of the Public Resources Code, the Resource Element establishes long-range management objectives for the natural and cultural resources of the unit. Specific actions or restrictions required to achieve these objectives are also included in this element. Maintenance operations and resource management details are left for inclusion in specific resource management programs to be prepared later.

#### Summary and Evaluation of Resources

The following resource information is summarized from a large collection of primary and secondary literature located in offices of the Department of Parks and Recreation in Sacramento and at the Frontera Area Office in San Diego. A detailed inventory of features, prepared for this unit during the general plan process, is on file with the department.

## Natural Resources

#### Topography

The unit is generally level and near sea level, consisting of a portion of the Silver Strand which separates San Diego Bay from the Pacific Ocean. The width of the strand varies from 2,625 feet (787 meters) to 875 feet (262 meters). The unit includes 23,500 feet (7,158 meters) of ocean beach and 4,600 feet (1,401 meters) of bay frontage. These figures include +40 acres recently leased by the Department of Parks and Recreation from the U.S. Navy. This lease provides 1,435 feet (437.39 meters) of bay frontage north of Crown Cove for public use.

Much of the land at Silver Strand State Beach is artificial fill, deposited during construction of the highway and the dredging of San Diego Bay. A 1933 description of the strand described it as being "very narrow, rarely exceeding one-eighth of a mile in width. Storms in the winter of 1933 all but cut through its center, narrowing it to such an extent at this point that the highway was close to being undermined." Extensive dredging of the bay took place from 1941-1945, and the deposition of the spoils greatly widened the strand. Some land and tidal areas of the original unit were dredged out of existence during World War II.

#### C1 imate

The Mediterranean climate, characterized by warm, dry summers and cool, wet winters, is moderated by the unit's location next to the Pacific Ocean and by coastal fog. Extremes of heat or cold are unusual. Average maximum temperatures range from  $64.6^{\circ}F$  (17.9°C) in January to 77.3°F (24.9°C) in August.

Prevailing winds are from the west most of the year. Strong hot, dry easterly winds, known as the Santa Anas, sometimes blow for several days, raising the temperature to  $90-100^{\circ}$ F ( $32-38^{\circ}$ C). Santa Anas can occur anytime of the year, but are most prevalent in the fall.

85% of precipitation occurs between November and March. The annual average is about 10 inches (25 cm).

#### Hydrology

Permeability through the beach sand is rapid, so drainage is generally not a problem. The pedestrian underpasses under Silver Strand Boulevard are the unit's lowest points of land, and storm runoff and ocean water occasionally collect and flood them. Only one tunnel has a drain; the others are usually impassable for some time following storms.

#### Geology

This section of coastline, from Coronado to the Mexican border, has no cliffs. Most of the coast in this area is at an elevation of less than 10 feet (3 meters). Silver Strand State Beach is underlain by the Bay Point Formation, which is brown to tan, fine to coarse, massive, moderately well-consolidated marine sandstone and siltstone. The unit's low elevation makes all its structures subject to damage from tsunamis, high tides, and storm waves. The unconsolidated beach sand may also be subject to liquefaction from an earthquake.

The coastline at Silver Strand State Beach is slowly progressing eastward, reducing the land area of the unit. The unit is losing its beach sand because there is a deficit in the amount of littoral sand. Wave action generally moves sand northward along this stretch of coastline. Dams on the Tijuana River, which previously transported large amounts of sediment to the beaches, have disrupted the normal process of sand movement. Each year, wave action moves more sand northward than is replenished by Tijuana River sediment. The result is an annual loss of sand, reducing the width of the sandy beach. This continuing problem has exposed the ocean beach restrooms and administrative facilities to flooding by sea waves. The restrooms have been closed and are being relocated further inland. As sand continues to be lost, additional loss of facilities can be expected.

#### Soils

Most of the land at Silver Strand State Beach is beach sand, not classified as soil.

The only soil that occurs at Silver Strand State Beach is classified as Marina loamy coarse sand, 2 to 9% slopes. It is somewhat excessively drained, very deep loamy coarse sand derived from weakly consolidated to noncoherent ferruginous sand. Fertility is medium and permeability is rapid.

#### Plant Life

The vegetation type at Silver Strand State Beach is coastal strand, which is rare in San Diego County, since most vegetation that naturally occurred adjacent to the beaches has been displaced by commercial, residential, or recreational development. The coastal strand habitat at Silver Strand is one of the best remaining examples of this habitat in San Diego County.

The vegetation of the unit has been divided into two communities: mixed barren short shrub/sea-fig (Carpobrotus aequilaterus) short herb and golden bush (Happlopappus venetus) scattered medium shrub/sea-fig scattered short herb. In addition, in developed areas of the unit natural vegetation has been displaced by car parking, roads, buildings, and ornamental vegetation.

The dynamics of the plant communities and plant succession at Silver Strand State Beach are related to the stability of the sand and the succession from herbaceous species to shrub species. Bare sand occurs within 30-50 meters of the surf zone. This bare sand environment is too harsh for terrestrial vegetation to become established due to the combined effects of wind, windblown sand, salt spray, and occasional direct wave attack related to storm-generated waves and high tides. Inland from this stretch of bare sand is a strip of sparse vegetation 30-50 meters wide where sea rocket (Cakile edentula) is the only species able to survive the elements.

Eastward is a zone of scattered short herbaceous vegetation with a variety of species. Here the sea-fig is well established and the sand is relatively stable, allowing the organic content of the sand to increase, forming a soil with greater water-holding capacity. A wide variety of species could be established here.

The last ecotone in this established progression is the narrow strip along the highway where small shrubs including golden bush, lemonadeberry (Rhus integrifolia), and sage (Artimesia californica) are scattered. This roadside vegetation requires stable soil and is deep rooted. These plant materials may be benefiting from the soil material brought onto the strand for highway construction. The soil is more stable and has greater water-holding capacity than the coarse beach sand closer to the ocean.

The California Department of Fish and Game's Natural Resource Data Base shows six rare or endangered plant species occurring within or near Silver Strand State Beach. They are:

Coast wallflower
Palmer's frankenia
Rattleweed
Nuttall's lotus
Short-lobed broomrape
Philosma

(Erysimum ammophilum)
(Frankenia palmeri)
(Astragalus tener var. titi)
(Lotus nuttallianus)
(Orobanche parishi ssp. brachyloba)
(Pholisma arenarium)

A systematic search for these plants was conducted on April 8, 1983. Of these six species, only Lotus nuttallianus was found. This species occurs occasionally along the strip adjacent to and west of the highway. It is very common in a 7.5-acre strip east of the highway within the 40-acre parcel recently leased by the department from the Navy.

#### Animal Life

The saltmarsh, mudflat, open water, and coastal strand habitats of San Diego Bay are important to a large variety of birds. The most important wildlife habitat areas in the unit are the ocean beach and bay mudflats which provide valuable feeding areas for shorebirds.

There are at least 100 species of water-associated birds which use the bay for feeding, nesting, or resting during some period of the year. San Diego Bay is one of the nation's most attractive bird-watching areas, frequently hosting as many or more birds in number and variety as any similar area in the United States. Bird-watching is concentrated at the southern end of the bay.

Mammals commonly seen on the strand include striped skunk, brush rabbit, and the California ground squirrel. Fencing along the highway restricts the mobility of wildlife.

The California least term, an endangered species, historically nested on the strand. It is possible to set aside a portion of the strand for least term nesting.

#### Marine Life

The dominant marine habitats at Silver Strand State Beach are the intertidal and sublittoral sand zones. The constant daily shifting of sand makes the beach a harsh environment where few animals can survive. Those species that do live on sand beaches possess unusual behavioral, morphological, and physiological adaptations which allow them to counteract adverse environmental conditions. Species at this beach include worms, bivalves, and sand crabs.

Offshore fish include surfperch, croakers, corbina, and grunion.

# Cultural Resources

#### Native American Resources

The unit has been completely surveyed for cultural resources, and there are no known archeological sites, features, or isolated artifacts.

#### Euroamerican Resources

There are no known historic sites or any significant Euroamerican cultural resource sites or features at Silver Strand State Beach.

#### Historical Sketch

Human skeletal material found in cliffs at Del Mar near Torrey Pines State Beach has been dated to 28,000, 44,000, and 48,000 years B.P. (before present) by an experimental amino acid racemization dating technique. However, these dates are controversial and are considered to be hypothetical because they have not been confirmed by other dating techniques.

The earliest documented assemblage of tools in this area came from the banks of the San Dieguito River. This site in western San Diego County yielded a small number of leaf-shaped and weak-shouldered projectile points, knives, crescents, cores, flake scrapers, choppers, hammers, and engraving tools. The San Dieguito culture is considered to have been a regional variation of a widespread hunting tradition that came to southern California from the Great Basin.

Late Horizon sites after A.D. 1400 include finely chipped projectile points without stems, curved shell fishhooks, a variety of shell, bone, and stone ornaments, and elaborate mortuary customs.

European contact with this part of California began with Juan Rodriguez Cabrillo's 1542 voyage north from Navidad, Mexico. In 1602-1603, Sebastian Vizcaino surveyed this coastline, but no Europeans settled in the area until 1769 when the Mission San Diego de Alcala was founded at San Diego. In the same year, Gaspar de Portola began a land expedition northward up the coast. In mid-July, Portola's party reached the vicinity of the present Carlsbad State Beach. Friar Juan Crespi, who recorded their adventures in his diary, described broad, grassy mesas interrupted by frequent rich, green valleys.

Although Indian people in coastal San Diego County were called Diegueno or Mission Indians, they are known by and prefer a variety of other names. Many ethnographers use Ipai to describe those living between San Diego and Agua Hedionda, and Tipai for those living in the territory from San Diego south past Ensenada, Mexico, and east beyond the Imperial Valley. Some inland Indian groups prefer the name Kumeyaay.

The southern group, the Tipai people, hunted and gathered a wide variety of foods, with acorns making up a smaller part of their entire diet than those of many other California tribes. They had a well-developed trade system with peoples to the east, from whom they obtained foodstuffs and obsidian. The Tipai rapidly integrated Spanish crops, domestic animals, and some tools into their subsistence economy. However, introduced species, especially sheep, competed with native flora and fauna that were traditional food sources.

The Ipai and the Tipai took poorly to mission life. Six years after the founding of the San Diego Mission, it was attacked by its "own" Indians.

By the close of the 18th century, Portola's original route had become the main coastal road connecting the missions and the large ranches along its path. During the Mexican Period (1821-1846), cattle grazed the coastal hills and valleys, supplying the hide trade centered in San Diego at Point Loma.

The secularization of the missions in 1834 and the American takeover of California in 1846 left most Indians without a legal claim to the land. Access to traditional hunting and gathering areas, including the coast, was increasingly restricted. A series of small reservations was established in scattered inland areas beginning in 1875.

During the Spanish period of occupation of San Diego and throughout the majority of the Mexican period, little interest was shown in the Silver Strand (or the "peninsula"), the narrow ridge of sand-covered rock that connected the mainland and "San Diego Island" (Coronado Island). The land was vacant and

during all but a few months of the Hispanic era unowned by private parties. In mid-May 1846, Pedro C. Carrillo received a grant of the "Island;" the "peninsula" was part of the grant.

Carrillo sold the grant to New England whaler Bezar Simmons, who apparently made no use of it. Three years later, he began to sell off his interest in the property to real estate speculators William Aspinwall and Archibald Peachy. They in turn leased the island for agricultural purposes. Cattle seemed to remain the main economic features of the island's business activity, though it would appear that jack rabbits were the main inhabitants.

In 1885, recognizing a potential for a resort area, E. S. Babcock and H. L. Story bought the island and created the Coronado Beach Company. As part of their scheme to develop the island, they built a road (later Highway 75) and established a rail line over the peninsula to handle the projected hordes of investors and real estate buyers. The collapse of the land boom in 1888 hit the Coronado Beach Company, and it was sold to John D. and Adolph B. Spreckels. The peninsula was part of the transaction.

In December 1931, the Spreckels' holding companies turned over to the State Park Commission a total of 42 acres on the peninsula, including a 28-acre oceanside strip west of the highway measuring 40 feet wide and about 16,000 feet long. Several bayside parcels comprised the rest of the transferred property, which became Silver Strand Beach State Park.

In 1936, the department purchased 32 acres at the bayside north end of the unit from the U.S. Army. The U.S. Navy took over the bayside parcels during the late summer of 1941. During the war the Navy dredged the parcels almost out of existence but created, in the tidal flats, a larger parcel of above-water property. The oceanside 40-foot-wide strip remained in state ownership and, in fact, grew as bay dredging for naval purposes dumped millions of tons of spoils onto the beaches on both sides of the highway. An extensive new beach appeared due to this dredging.

During World War II, the State Park Commission acquired additional property from the Spreckels. Another parcel was purchased from the Coronado Development Company (successor to the Coronado Beach Co.) in 1949. In the meantime, a legal struggle ensued between the State Park System and the U.S. Navy over the original condemnation and additions the Navy wanted to acquire.

While the legal conflict between the Navy and the State Park System continued, the State Lands Commission in 1955 gave to the department all of the "artificially accreted lands and tide and submerged lands," creating a large addition to Silver Strand State Beach. In June of 1955, the department (then the Division of Beaches and Parks) turned over to the Department of Public Works the original 40-foot-wide strip for an addition to the existing state highway, causing the original Silver Strand State Beach to cease to exist. The current unit's origin dates from a 1943 acquisition.

In 1959, the department and the U.S. Navy reached an agreement over the ownership and use of land at Silver Strand. The Navy retained the original bayside parcels (altered and enlarged by dredging) and now leases a portion of the northern part of the property to the state.

The federal Civilian Conservation Corps, stationed at CCC Camp Cuyamaca Rancho from 1936-1937, accomplished the major work of creating facilities for public use at Silver Strand. However, this work was performed on property that no longer exists or is no longer part of the State Park System.

#### Esthetic Resources

Because there are no bluffs or other high vantage points at Silver Strand State Beach, the surrounding scenery must be viewed from the level ocean beach or the bayside. Views from the beach include Coronado Island and Point Loma. Bayside views include San Diego Bay, Coronado Bridge, and the Naval shipyards across the bay. However, private vessels moored in Crown Cove partially block views of the bay.

Negative sights include the unit's main lifeguard tower, adjacent residential developments, a large radio antenna south of the unit, chainlink fences, and highway traffic.

The foremost positive sound at the beach is the surf. However, highway traffic and low-flying aircraft can be noisy and distracting.

#### Recreation Resources

Virtually all recreation activities at Silver Strand State Beach are beach and ocean oriented. A wide variety of activities occur, including:

<u>Passive</u>	Active
Sunbathing People Watching Picnicking Beachcombing Sightseeing Contemplation Wildlife Observation	Surf Fishing Swimming Skin Diving Jogging Volleyball Beach Play Boating Camping Bicycling Surfing

Many of these activities, including sunbathing, jogging, and bicycling, do not require a beach environment, but the esthetic qualities of this beach make these activities more enjoyable here.

#### Resource Policy Formulation

#### Classification

Silver Strand State Beach has been a unit of the State Park System since 1932. The unit was classified a state beach by the State Park and Recreation Commission in June 1962. The Public Resources Code defines a state beach as a type of state recreation unit as follows:

5019.56. State Recreation Units. State recreation units consist of areas selected, developed, and operated to provide outdoor recreational opportunities. Such units shall be designated by the Commission by naming, in accordance with the provisions of Article 1 (commencing with Section 5001) and this article relating to classification.

In the planning of improvements to be undertaken within state recreation units, consideration shall be given to compatibility of design with the surrounding scenic and environmental characteristics.

State recreation units may be established in the terrestrial or underwater environments of the state and shall be further classified as one of the following types: . . .

(d) State beaches, consisting of areas with frontage on the ocean, or bays designed to provide swimming, boating, fishing, and other beach-oriented recreational activities. Coastal areas containing ecological, geological, scenic, or cultural resources of significant value shall be preserved within state wildernesses, state reserves, state parks, or natural or cultural preserves.

#### Proposed Natural Preserve

The southern portion of Silver Strand State Beach beginning 305 feet south of the entrance station and west of State Highway 75 is recommended for sub-unit classification as a natural preserve. This classification is based on the site's value as an example of the coastal strand ecosystem, which has been subject elsewhere along the coast to severe impacts from general development and heavy recreation use. Although the coastal strand and low dunes at Silver Strand State Beach have also been affected heavily by dredging spoils deposited during World War II, the area has recovered and has developed a plant community similar to that probably once found all along the southern California coast. This area of the unit is also a potential nesting site for the endangered California least tern. Classification as a natural preserve is needed to protect natural values and ensure that recreation use is restricted to nature observation.

The coastal strand habitat within the proposed natural preserve contains exotic (alien) plant species which are displacing native plants and may be displacing potential habitat for several rare or endangered plant species that are specially adapted to this habitat. Designation of this area as a natural preserve will aid the removal of exotic plants and the implementation of management plans to favor rare and endangered plant species.

The Public Resources Code defines a Natural Preserve as follows:

5019.71. Natural Preserves. Natural preserves consist of distinct areas of outstanding natural or scientific significance established within the boundaries of other state park system units. The purpose of natural

preserves shall be to preserve such features as rare or endangered plant and animal species and their supporting ecosystems, representative examples of plant or animal communities, existing in California prior to the impact of civilization, geological features illustrative of geological processes, significant fossil occurrences or geological features of cultural or economic interest, or topographic features, illustrative of representative or unique biographical patterns. Areas set aside as natural preserves shall be of sufficient size to allow, where possible, the natural dynamics of ecological interaction to continue without interference, and to provide, in all cases, a practicable management unit. Habitat manipulation shall be permitted only in those areas found by scientific analysis to require manipulation to preserve the species or associations which constitute the basis for the establishment of the natural preserve.

#### Declaration of Purpose

The State Park and Recreation Commission approved the following declaration of purpose for all San Diego coast state beaches on June 19, 1964:

The purpose of San Diego coast state beaches is to make available to the people, for their benefit and enjoyment forever, the scenic and recreational resources inherent to the coastal beaches and adjacent uplands of San Diego County.

The function of the Division of Beaches and Parks at San Diego coast state beaches is to prescribe and execute appropriate programs which provide facilities and opportunities for maximum public use and enjoyment, in accordance with the declared purpose of the unit.

A new declaration of purpose for Silver Strand State Beach is established as part of this general plan as follows:

The purpose of Silver Strand State Beach is to make available to the people, for their benefit and enjoyment forever, the scenic, natural, cultural, and recreational resources of the ocean beach and related uplands.

The function of the California Department of Parks and Recreation at Silver Strand State Beach shall be to preserve and protect public opportunities for ocean beach-oriented recreation in a high-quality environment. A natural setting for recreational activities shall be preserved.

The purpose of the natural preserve shall be to preserve an example of the coastal strand ecosystem in San Diego County.

# Zone of Primary Interest

A zone of primary interest is that area in which the department would like to influence development and use so that a State Park System unit's resources will not be seriously jeopardized or degraded.

The zone at Silver Strand State Beach includes all adjacent land, the offshore areas, and the water body of San Diego Bay.

In addition, the department is concerned about all lands, no matter how far from the unit, that can, through their development and use, adversely affect the unit's resources and features. Activities that continue to affect unit resources include the generation of air pollution in southern California urban areas, and the damming of rivers and the construction of breakwaters and other structures along the coast, which has caused the disruption of littoral sand movement.

## Natural Resource Management Policies

The management of natural resources in the State Park System is governed by statutes, policies, and directives found in the Public Resources Code, California Administrative Code (Title 14), and the department's Resource Management Directives. The specific policies from the department's Resource Management Directives that pertain to the natural resources of Silver Strand State Beach are: 13, 14, 15, 16, 18, 19, 33, 36, 38, 39, and 46. Directive 18 is particularly relevant to planning southern California state beaches. It is quoted below:

(18) Insofar as is possible in state beaches, the entire area of the sandy littorals will be available for recreational use and visual enjoyment. It is an objective of the department to avoid use of natural sandy beaches for parking, or for other supportive or secondary uses.

In 1978 the State Resources Agency established a Policy for Shoreline Erosion Protection, which applies to planning, purchasing, and improving State Park System units. The policy states, in part:

Development of the lands adjacent to large bodies of water carries with it an element of danger from wave action, which can threaten the safety of public and private property and recreational values.

It is the policy of the Resources Agency that the use of these lands avoid hazardous and costly situations caused by erosion and minimize or resolve existing problems. Only in those situations where structures or areas of public use are threatened should the state resort to funding or approving remedial projects. When necessary, projects should restore natural processes, retain shoreline characteristics, and provide recreational benefits to the extent possible.

The planning and improvement of parks and beaches should be done in a way consistent with protection against the potential erosion of the affected segment of the coastline, and any structures located in areas subject to erosion damage should be expendable or moveable.

In addition to the policies, directives, and laws that apply statewide, the following specific natural resource management policies have been developed for Silver Strand State Beach:

#### Abiotic Resources

#### Coastal Erosion

Silver Strand State Beach is subject to direct wave erosion and beach sand depletion. Structures west of the highway are subject to wave attack during high tides and storm swells. Beach restrooms have been damaged and are being relocated farther east. The new location of the restrooms as well as the existing lifeguard tower and administrative and concession buildings are subject to wave erosion and direct wave attack.

Policy: No new structures shall be built west of the highway at Silver Strand State Beach unless they are portable, expendable, or capable of withstanding direct wave attack. Existing facilities in this zone shall be regularly inspected for structural problems following wave attack. If the buildings are seriously damaged, they shall be removed. The design of parking facilities should consider the use of surfaces that are permeable and adjustable to changing elevations.

#### Littoral Sand Loss

Loss of littoral beach sand at Silver Strand State Beach has reduced recreational opportunities and animal life habitat. Sand loss exposes shoreline facilities to direct wave attack. Littoral sand loss is a regional problem common to the entire San Diego County coastline. The U.S. Army Corps of Engineers is conducting a regional shoreline erosion study, including the Silver Strand area. The study will include the monitoring of littoral sand movement and may make recommendations on where artificial sand replenishment may be beneficial.

Policy: Littoral sand loss is recognized as a major threat to existing facilities and recreational resources. The department shall work with other agencies, including the San Diego Association of Governments, the California Department of Boating and Waterways, and the U.S. Army Corps of Engineers, to develop regional solutions to the sand loss problem. Any major program of sand replenishment or retention must consider the regional nature of the problem and the regional impact of actions taken along a segment of the shoreline.

#### Monitoring Erosion

Accurate site information on erosion rates would be useful in developing a management program for replacing lost facilities or in justifying preventive programs.

Policy: A regular program of monitoring erosion rates and the width and elevation of Silver Strand State Beach shall be established by field staff under supervision of the Southern Region and the Resource Protection Division. The monitoring program should include ground photos, taken at regular intervals at the same locations, to document beach profiles.

#### Seismicity

The Rose Canyon fault zone passes through San Diego Bay just east of the unit. Although the fault has not exhibited movement within the last 7,000 years, movement could occur at any time.

Policy: New structures constructed at Silver Strand State Beach shall be designated to withstand an earthquake with a Richter magnitude of 6.5, with a repeatable high ground acceleration of 0.33 g. The expected maximum peak horizontal bedrock acceleration for a seismic event of magnitude 6.5 would be approximately 0.5 g. Liquifaction from a seismic event is a possibility which also should be considered in facility design.

#### Biotic Resources

#### Rare and Endangered Plants

Rare and endangered plants have been reported throughout the Silver Strand, but only Lotus nuttallianus was found in the unit during a field survey on April 8, 1983. Weather conditions and the effects of winter storms may have prevented or delayed the normal growth of these plants. Also, these species may have been extirpated from Silver Strand State Beach.

Policy: A systematic search for all rare or endangered plants that could occur at Silver Strand State Beach shall be conducted before any further development. All rare and endangered plants in the unit shall be protected and managed for their perpetuation. Management plans shall be prepared for those species requiring special management and protection.

Silver Strand State Beach provides important habitat for native vegetation that is specially adapted to the low dunes in the littoral zone inland from the ocean beach. This plant community is characterized by sea-fig (Carpobrotus aequilaterus) and the beach evening primrose (Oenothera chieranthifolia).

Most of the native habitat in San Diego County, similar to that found at Silver Strand, has been destroyed by oceanside development. Protection of this habitat type is the main reason for establishing a natural preserve within the unit. The reported presence of several rare and endangered plants underscores the need for protection.

The portion of the unit north of the main oceanside parking lots and west of State Highway 75, which is currently leased to the Navy for amphibious warfare training, contains important coastal strand habitat similar to that found in the southern portion of the unit, which is proposed for natural preserve status. Rare and endangered plant species have been reported in the leased area.

Policy: Those lands currently leased to the Navy should be considered for designation as a natural preserve, if the lease between the department and the Navy is terminated. If further investigations locate important populations of rare or endangered plants, the department shall negotiate an agreement with the Navy to provide for the protection and proper management of those plants.

Nuttall's lotus (Lotus nuttallianus), a plant species designated by the California Native Plant Society as "rare in California, common elsewhere," occurs at Silver Strand State Beach. The best population of this species in the unit is in a 7.5-acre strip east of the highway within the 40-acre parcel recently leased by the department from the Navy. Although this parcel is proposed as a campground in the preliminary general plan, the plant's habitat can be protected from development with minor modifications of the campground's conceptual design. In addition to providing habitat for a rare plant, this part of the unit has the unit's best example of coastal strand vegetation.

Policy: The habitat for Nuttall's lotus (Lotus nuttallianus) shall be protected at Silver Strand State Beach. If necessary, a management plan shall be developed and implemented to assure the perpetuation of this species at the unit.

Exotic (Alien) Plant Species

Exotic ornamental shrubs and herbs at Silver Strand State Beach displace potential habitat for native vegetation. Native vegetation habitat has been recognized as an important feature of this unit.

Policy: Landscaping associated with new developments shall use native plants whenever possible. Existing exotic (alien) plants shall be replaced with native species, where possible. No exotic plants capable of naturalizing shall be introduced in the unit.

California Least Tern Nesting Site

The California least term is listed by the California Department of Fish and Game as an endangered species. The Silver Strand once supported thousands of least terms; nesting occurred there at least until 1934. The least term is threatened with extinction because of human disturbances and the continued destruction of feeding and nesting habitats. Nesting colonies require flat areas with little or no vegetation, mixed sand and shell (or other loose substrate), freedom from disturbance, and nearby shallow water areas, such as estuaries, with a good supply of small fish.

A least tern colony has been improved at Huntington State Beach by providing a fenced enclosure. The nesting colony is now among the largest in the state. Silver Strand State Beach has the potential to play an important role in the recovery of this endangered species through the establishment of a nesting area similar to the one at Huntington State Beach. The California Department of Fish and Game has proposed establishing a nesting site near the southern boundary of Silver Strand State Beach, within the area proposed as a natural preserve.

Policy: Appropriate efforts shall be taken to establish a California least tern nesting site at Silver Strand State Beach.

## Cultural Resource Management Policies

Management of the cultural resources at Silver Strand State Beach is governed by state statutes and departmental policies and directives. The following portions of the Public Resources Code pertain to the management of cultural resources: Chapter 1.7, Section 5097.5 and Chapter 1.75, Section 5097.9.

The following Resource Management Directives are relevant to the cultural resources of Silver Strand State Beach: 3, 18, 19, 24, 25, 50, 51, 52, 54, 55, 56, 58, 59, 60, 69, 70, 71, and 72.

The inventory of features and this Resource Element have been prepared to comply with the Public Resources Code Sections and Resource Management Directives listed above. There are no known cultural resource sites at Silver Strand State Beach.

Policy: Any archeological or historical resources that may be discovered by department employees should be reported to the Resource Protection Division, which is responsible for maintaining a statewide inventory of cultural resources. Any such discoveries should be protected in situ until they can be professionally described and evaluated (based on Resource Management Directives 25, 50, 51, 54, 58, and 70). A clearance is given for this general plan subject to review of specific development, construction, and resource management projects at Silver Strand State Beach, according to Directive 59. Any project planned for the reported location of SDI-59 (north of the area now managed by the department) should be monitored or test-excavated before construction.

#### Allowable Use Intensity

California state law (Section 5019.5, Public Resources Code) requires that a land carrying-capacity survey be made before any park or recreational area development plan is prepared. As a step in determining carrying capacity, the department considers allowable use intensity.

Appropriate use intensity is determined by the analysis of three components: 1) management objectives, 2) visitor perceptions and attitudes, and 3) the impact of any development and use on natural and cultural resources.

The management objectives for Silver Strand State Beach are generally set forth in the statutes defining a state beach (see the Classification section of this Resource Element).

The second component, visitor perceptions and attitudes, is sometimes referred to in relation to "social carrying capacity," and involves assessing the social objectives of the department, what recreationists perceive as an acceptable recreational environment, what degree of isolation or crowding is acceptable, and other perceptions and attitudes pertaining to the quality of visitor recreation experiences. These factors are very difficult to quantify. State Park System planners must take a leading role in increasing public awareness and appreciation of high-quality recreation experiences.

The third, and most important, component in determining allowable use intensity involves an analysis of the natural and cultural resources to determine the area's physical limitations for development of facilities, and the ability of the ecosystem to withstand human impact (ecological sensitivity). This analysis is based on a number of environmental considerations, including: soils and their erosion and compaction potential; geological factors, such as slope stability and relief; hydrologic considerations, including the potential for pollution of surface waters, flooding, and depletion of surface and groundwater through water use;

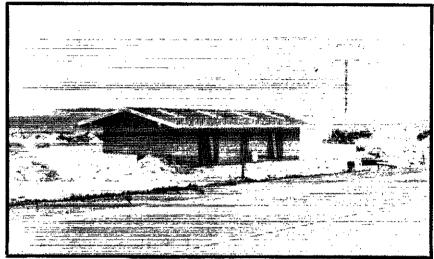
vegetation characteristics, such as durability, fragility, and regeneration rates; occurrence of paleontological strata; and wildlife considerations, such as tolerance to human activity, wildlife population levels, and stability. Additional considerations in determining ecological sensitivity are: rare and/or endangered plants and animals, unique botanical features and ecosystems, and examples of ecosystems of regional or statewide significance (marshes, riparian areas, and vernal pools).

Based on the preceding factors, four zones of allowable use intensity have been developed for the state beaches in San Diego County (all zones may not exist in each unit):

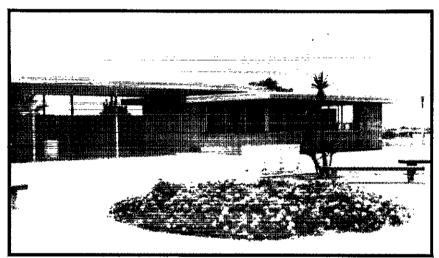
- Ocean beach. Capable of high-intensity use but subject to periodic inundation by ocean waves. No permanent facilities allowed within this zone.
- II. Ocean-facing cliffs. Defined as the zone inland from the toe of the cliff to a horizontal distance equal to the height of the cliff as measured from a vertical plane to the toe. Visitor use restricted to designated corridors to provide access from the terrace level to the beach. New construction only for stairways and trails; special construction methods shall be employed to reduce the potential for accelerating erosion and landsliding. Existing facilities, including buildings and campsites, may remain in use subject to regular inspections by field personnel in coordination with the department's geologist. Use of facilities shall be discontinued if determined to be unsafe.
- III. Sand dunes and low areas inland from beach. Subject to inundation only during unusually heavy storms, swells, and tsunamis. Any native vegetation in this zone should be protected. New developments are allowed in this zone, but risk of damage from ocean waves and shoreline erosion is significant.
- IV. Terrace lands. Capable of high-intensity public use and development with appropriate setbacks.

Ownership patterns and other limiting factors, including esthetic, socioeconomic, and design considerations, may indicate that a higher or lower use intensity is desirable in a particular area. If appropriate mitigating actions are incorporated in planning and design, and if risks are understood, higher use levels may be acceptable. In these cases, innovative approaches, such as portable buildings and controlled pedestrian accessways, will be used to provide recreation opportunities.

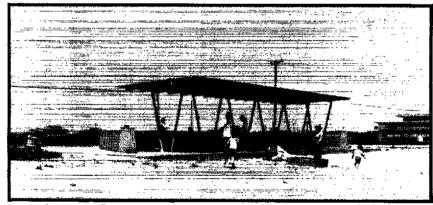
# Land Use and Facilities Element



New oceanside comfort station under construction.



Existing bayside concession building to be modified for group use.



Bayside shade structure

#### LAND USE AND FACILITIES ELEMENT

This element provides information on current land uses around the unit, explains current conditions in the unit, and recommends new facilities.

For purposes of this plan, five study areas have been identified encompassing existing DPR parcels and additional lands that are of interest to the department for ultimate operation and development of the unit (see General Plan Index Map). These areas are:

Area 1	 A 257.26+-acre parcel on the ocean side of Highway 75
	extending north from existing oceanside development. This
	area is currently leased to the U.S. Navy for a 40-year period expiring 2022.

Area 2 -- A 40-acre bayside parcel currently leased from the U.S. Navy for a period of 40 years expiring 2022.

Area 3 -- The area of existing bayside development.

Area 4 -- The area of oceanside development.

Area 5 -- The undeveloped oceanside strip of beach extending south from the developed oceanside.

## Land Use Patterns of Surrounding Area

The Pacific Ocean and San Diego Bay are the major components of the unit's setting. Highway 75 divides the unit into oceanside and bayside sections. The oceanside area is bounded on the north by the U.S. Naval Amphibious Base and on the south by the U.S. Naval Communication Station. The bayside area is bounded on the north by vacant Navy land, an elementary school, and Naval housing, and on the south by the water-oriented Coronado Cays residential development.

The Navy has no current plans for developing the vacant land north of the bayside parcel. The vacant bayside peninsula to the south is leased to the Coronado Cays Company and has been designated for commercial recreation uses, although no master plan has been prepared.

The nearest commercial establishments to the unit are three to four miles away.

A bicycle trail parallels the east side of Highway 75 from Imperial Beach to Coronado.

There is currently a small number (10-15) of privately owned boats mooring in Crown Cove.

The southern portion of San Diego Bay is one of the finest small-boat sailing and rowing areas in southern California due to its good winds, calm waters, and lack of big boat traffic. This valuable recreation resource is vastly underused. Harbor patrol activity is virtually nonexistent in the south bay area.

# Existing Unit Conditions

Silver Strand State Beach, a highly developed 404.38-acre beach recreation facility, was visited by 359,437 people during the 1982 calendar year. Except for major holiday weekends, use is well below unit capacity.

A lease to the Navy takes 257.26 acres (Area 1) out of public use. But the lease of the 40-acre bayside parcel (Area 2) from the Navy makes a total of 187.12 acres available for public use at this unit.

Existing facilities (see Existing Facilities Map) in the unit are, by area:

- Area 1 -- None
- Area 2 -- None
- Area 3 -- Four comfort stations
  - -- 124 picnic sites with ramadas
  - -- Maintenance area
  - -- Employee residence area (two residences)
  - -- Turf play areas
  - -- Concession building
  - -- Bayside sand beach
  - -- Pedestrian walkways
  - -- Six lifeguard stands
  - -- Three access tunnels from the ocean side of Highway 75
- Area 4 -- Entrance contact station
  - Day-use parking for 1,765 cars (en-route camping --125 sites)
  - -- Lifequard tower and office
  - Three permanent comfort stations
  - -- Concessions building
  - -- Beach promenade
  - -- Six lifeguard stands
  - -- Shade ramadas
- Area 5 -- None

Use of this unit has never reached anticipated levels primarily because of the lack of challenging summer surf, the unit's isolation, and the separation of parking from bayside facilities. In addition, the continued depletion of beach sand has allowed winter storms to damage the oceanside comfort stations and parking lots. Four buildings have been demolished by surf. (Portable restrooms are currently being employed during removal of the old structures and construction of two new buildings.) This lack of adequate facilities contributed to a 13% reduction in visitation from 1979 to 1982.

In 1982, a summer-long program at the unit was initiated by the Department of Recreation at San Diego State University to meet the outdoor recreation needs of disabled individuals, particularly the severely disabled, for whom beach-oriented aquatic and camping experiences are extremely limited. This program, known as Camp Able, made some use of the existing unused bayside concession building. However, this facility is not currently designed for group use.

Also in 1982, a program was initiated to permit overnight, or "en-route," camping in parking lot no. 4 of Area 4. This program is designed to maximize use of existing day-use parking facilities from sunset to dawn when they are not required. The need for coastal camping opportunities is well established throughout San Diego County and is recognized by all public agencies, including the Coastal Commission. Until permanent camping facilities are developed, the en-route camping program will continue to be extremely popular.

The following concerns at the unit, listed by area, will require attention:

- Area 1 -- Under terms of the present lease, this area will not be available to the public until the year 2022. When the lease expires, or when the Navy deems the area surplus to its needs, planning for public use will be required.
- Area 2 -- The present lease from the Navy makes this area available to the public until the year 2022. The area can potentially meet the following public needs:
  - Additional family and group camping
  - Additional boat mooring and launching
  - o Additional boat servicing
  - -- Vehicle access to the bayside area is required.
- Area 3 -- Existing day-use facilities are underused.
  - -- The concession building is only used for storage and by the "Camp Able" program.
  - Existing access tunnels to the bay side are unlighted and inefficient.
  - Boating access and facilities are inadequate.
  - Access for disabled persons to the bay water surface is inadequate.

- -- There is inadequate lighting for evening use.
- -- Continued non-permit-controlled mooring of private boats in the cove poses a potential conflict with management of onshore uses and facilities, a potential sanitation hazard, and a conflict with recreational boating.
- -- Maintenance equipment storage facilities are inadequate.
- Area 4 -- Day-use facilities are underused.
  - Beach sand depletion is causing the destruction of existing facilities.
- Area 5 -- Public intrusion precludes nesting by the endangered least tern.

Winter storms in late 1982 and early 1983 caused severe damage at beach units throughout California. At Silver Strand State Beach, these storms resulted in the loss of substantial portions of four oceanside parking lots and damage to the lifeguard tower structure and contact station. These facts underscore the need for a fundamental change in the approach previously used for beach development.

In coastal units, the department has historically relied on the construction of solidly built structures and paved parking areas where additional structures, such as sea walls or riprap, were required to protect them. When confronted with severe storms, these measures are usually not entirely effective.

A more prudent approach would be to use portable buildings, instead of permanent structures, in locations subject to present or future inundation. During the winter, the structures would be removed from the site by staff or others and stored until storm conditions subside.

Because of its advantages, this approach will be considered for all future beach-level structures.

# Land Use and Facility Recommendations

The following is a list of recommended actions for land use and development at Silver Strand State Beach, by area:

#### Area 1

-- None proposed.

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#### Area 2

- Construct campground with 200 individual sites, three comfort stations, and campfire circle.
- -- Develop three group camp areas with space in each area for 50 people, parking for 10 cars, comfort station, and fire circle.

- Develop a bike-in camp area with space for 50 people, comfort station, and fire circle.
- Install vehicle sanitation dump station.
- -- Develop marina with bulkhead, 300 berths, and 30 fore-and-aft permit-controlled mooring slips (concession facility).
- -- Provide marina parking (210 cars), two comfort stations, and 30 picnic tables (concession facility).
- -- Develop harbormaster building with office, rental boat storage, lift and dock, comfort station, courtesy dock and fuel pump, and boat sanitation dump station (concession facility). Provide space for San Diego Harbor Patrol.
- -- Develop alternative bayside entry if tunnels are infeasible. This would involve constructing a frontage road on Navy land and Highway 75 right-of-way from the Leyte Road intersection to the proposed contact station.

#### Area 3

- -- Develop two-lane small-boat launching ramp with boarding floats and pull-through parking for 35 car/trailer units and 30 car-top units.
- -- Extend promenade and develop viewing plaza and lifeguard stand.
- -- Develop boating dock with access for disabled.
- Rehabilitate existing unused concession building complex for group use, with food service, eating, meeting, and storage areas, interpretive displays, and comfort station.
- -- Develop camp store/snack bar, parking for 50 cars, and interpretive display (concession facility).
- -- Develop day-use comfort station.
- -- Restrict area inshore of U.S. pierhead line to 5 mile-per-hour speed limit, and designate it as a no-mooring area.
- -- Install lighting in pedestrian tunnels and at bayside facilities.
- Develop overflow day-use parking area for 100 cars.
- -- Develop additional equipment storage facilities adjacent to maintenance area.

#### Area 4

- -- Replenish beach with imported sand as it becomes available from bay dredging.
- -- Remove storm-damaged portions of all four parking lots, develop permanent promenade, and rehabilitate beach (removes 510 parking spaces).

- -- Install interpretive displays.
- -- Develop vehicular tunnel entry to bayside facilities.

#### Area 5

-- Establish natural preserve to protect coastal strand habitat for native plants and animals. Attempt to establish a least tern nesting site.

Table 1 summarizes key recreation and management facilities before and after implementation.

Table 1
Facilities Summary

Partitus.	Existing on	After Townlesses		
Facility	DPR Property	After Implementation		
Unit Office	1	1		
Contact Station	1	1 (2 *)		
Family Campsites	Ō	200		
Bike-In Campsites	Ō	50 people		
Group Camp Area	0	3		
En-Route Campsites	125	0 **		
Campfire Center	0	1		
Sanitation Station (vehic	les) O	2		
Family Picnic Sites	124	154		
Group Day-Use/	0	1 ***		
Camping Facility				
Day-Use Parking Spaces	1,775 ****	1,690 ****		
Comfort Stations	7	17		
Concession Facility	2	4		
Boat Launch Facility	0	2 lanes		
Marina Berths	0	300		
Mooring Slips	0	30		
(permit-controlled)				
Maintenance Area	1	1		
Employee Residences	2	2		

\* If vehicular tunnels prove to be infeasible.

\*\* Until developed facilities replace it. Reinstitute only when developed campground is full.

\*\*\* May require special provisions for disabled use.

\*\*\*\* Reflects pre-1982-83 storm damage.

\*\*\*\*\* Potential based on sand replenishment.

Note: "After Implementation" figures include existing facilities.

Proposals contained in the general plan include development on the 40-acre parcel leased from the U.S. Navy, and in the area between this parcel and the U.S. Bulkhead Line, which is under Navy jurisdiction.

### Special Considerations

State law requires that projects be designed to be accessible to physically disabled persons. Silver Strand State Beach offers outstanding opportunities, particularly on the bay. All structures and parking areas will be designed to accommodate wheelchairs and, where appropriate, braille signing.

In addition, the proposed group facility at the existing bayside concession area would be designed to meet the following needs:

### Camp Able Program

Camp Able is an aquatic-based camp for San Diego County disabled youth and adults sponsored by the Department of Recreation at San Diego State University, in cooperation with the State Department of Parks and Recreation and agencies in San Diego County that serve the disabled. Camp Able operated successfully during the summer of 1982 at Crown Cove, on the bay side of Silver Strand State Beach. Campers, who ranged from preschool through 60 years of age, participated in various activities including swimming, sailing, and canoeing. Their disabilities included mild to profound retardation, cerebral palsy, spina bifida, and learning and emotional handicaps. For most participants, Camp Able was their first camping experience.

Camp Able was made possible by grants from the Easter Seal Society of San Diego County, private foundations, local service clubs, and businesses, and by proceeds from several fundraisers. It is the goal of the Department of Recreation at San Diego State University to continue Camp Able both as a program and "model" aquatic facility for the disabled in cooperation with the State Department of Parks and Recreation. A second full summer of activities was planned for July through August 1983.

# Youth and Adult Organizations

The proposed facility will also benefit such groups as scouts, sailing clubs, sports groups, camping groups, and docents. Meetings, seminars, award presentations, training programs, and interpretive classes could be held there.

# Unresolved Planning Issues

# Loss of Beach Sand

The loss of beach sand, stemming from natural and human actions, has resulted in the deterioration of existing facilities and a reduction in visitation. The two existing comfort stations at the beach edge have been damaged and are being removed. While it is possible to relocate the comfort stations and reduce the size of parking lot no. 1 to allow more space for wave action, this can only be viewed as an interim decision. The department's interest in restoring sand to the beach is obvious -- the demand for recreational beach activity exists and past investments in facilities can be lost if restorative action is not taken. Local jurisdictions which rely heavily on the economic benefits of tourism, and whose citizens use the state beach and Highway 75, also have an interest in the continued viability of this unit.

A March 1982 letter from the secretary for resources to the chairman of the Legislature's Natural Resources and Wildlife Committee establishes that the Department of Boating and Waterways will coordinate beach erosion control efforts. The recommendations to the Legislature are summarized in the following quotation:

- 1. The amount of public benefit shall be the basis for allocation of costs between state and local sources with the state and/or the federal government providing up to 75 percent of the costs for projects with high public benefit. A minimum local share of 25 percent is recommended on any project in which the state participates. The public benefit would be determined by the amount of public property protected, public access, and public use; however, no specific funding formula is recommended because of the unique nature of each project.
- 2. The coordination of beach erosion control efforts of state agencies shall be the responsibility of the Department of Boating and Waterways in federal/state/local and state/local projects. Coordination of erosion control projects on state-owned and operated property are the responsibility of the department responsible for managing the property, with the Department of Boating and Waterways responsible for the final approval of plans prior to implementation.

There is no change in the longstanding policy of the Resources Agency that only in those situations where structures or areas of public use are threatened should the state resort to funding or approving remedial projects. Where remedial efforts are deemed necessary, projects should restore natural processes, retain shoreline characteristics, and provide recreational benefits to the extent feasible.

At this time, no determination has been made about:

- 1. Any local agencies' commitment to participate financially in this effort.
- 2. The source of replenishment sand. The current periodic dredging of San Diego Bay may be one possibility; however, other sources may have to be found.
- The amount of an equitable cost sharing for the effort.

# **Boating Facilities**

The bay water area between the leased 40-acre parcel and the U.S. Bulkhead Line is under the jurisdiction of the Navy. Use of this area for recreational boating facilities was not clarified during the lease negotiations between the Navy and the state.

There is a demonstrated need for the recreation facilities proposed for this area. Boat berthing and boating access is in very short supply on San Diego Bay, particularly in the southern portion. The marina would not only complement proposed camping facilities but would generate additional day-use activity in this underused unit. In addition, this type of facility would provide additional revenue.

At this time, the Navy's official position on the proposed recreational boating facilities has not been determined.

# Local Coastal Plan Conformance

Proposals contained in this general plan are consistent with policies and designations identified in the Local Coastal Plan adopted and certified by the California Coastal Commission in 1981.

# Sequence of Action

The sequence of implementation of this unit's plan should run on two parallel courses. Implementation of each course should begin immediately.

#### Course One:

- 1. Develop bayside group facility. Rehabilitate existing unused concession building and shade ramada area to accommodate spaces for food service, eating, meetings, and storage. Install interpretive displays and modify existing comfort station.
- 2. Develop equipment storage facilities to reduce climate-caused maintenance costs.
- 3. Develop lighting in bayside day-use areas and pedestrian tunnels to reduce public safety hazard.
- 4. Replenish beach sand to curtail further damage to existing structures and parking lot paving.
- 5. If natural or artificial beach sand replenishment does not occur soon enough, removal of all facilities in Area 4 may become necessary because of the likelihood of future storm damage.

#### Course Two:

- Develop bayside tunnel entry for campers and motorhomes.
- 2. Develop campground, with areas for families, groups, and bicyclists; comfort stations, campfire circle, camp store/snack bar, and sanitation station.
- 3. Develop bayside day-use parking.
- 4. Develop sailboat launching facility and parking.
- 5. Develop marina and support facilities.

By following this sequence, the general plan proposals will result in a more complete state beach facility which can better serve the recreational needs and interests of a wide range of user groups, meet an increase in visitation, and contribute to department revenue.

# Interpretive Element



#### INTERPRETIVE ELEMENT

This general plan element outlines interpretive programs and facilities to enhance the recreational experience available at Silver Strand State Beach. (The unit's interpretive prospectus on file with the department contains additional information.)

# Methods and Media

Appropriate methods and media for interpreting the recreational, natural, and historic resources of this unit include: on-site and off-site talks, conducted nature study walks, water safety and recreation demonstrations, campfire programs, audio-visual techniques, a mobile exhibit trailer, outdoor panel exhibits, and publications.

### Interpretive Themes

### Staying Safe at the Beach

The dangers posed by rip currents and advice on how to avoid or escape them. Other beach safety tips recommended by the lifeguards should be interpreted. Current weather, tide, surf, and emergency information, fishing regulations, interpretive program schedules, and natural history information should be posted on a bulletin board.

### Catching Fish at the Beach

The common saltwater sport fishes caught along the San Diego coast and the angling techniques used to catch them. The grunion merits special emphasis.

# The Wildlife of the Coast and How They Live

The varied forms and habits of the common invertebrate and vertebrate animals of the San Diego coast. Interpretive approaches could include: "The Life Underfoot" (invertebrate life in the wave-wash zone), "A Bill for Every Purpose" (a comparison of bill size, food, and behavior among common shorebirds), "Sea-Going Mammals" (identification and interesting life history information on the San Diego coast's common marine mammals), and "Living in Shifting Sands" (which plants, invertebrates, and vertebrates live in the dunes and how they have adapted to the conditions there).

# Helping Them to Survive

The status and special requirements of Silver Strand's endangered plant and animal species, and what is being done at this state beach to help continue their existence.

# The Changing Beach

The dynamics and "sand budget" of the Silver Strand littoral cell from the perspectives of seasonal cycles and human alteration of natural forces. The formation and dynamics of the Silver Strand itself and its sand dunes should be presented.

#### People and the Beach

A brief historical overview of human use of the Silver Strand, from the food-gathering camps of the Tipai to today's development. Interpretation should cover Carrillo's rancho, early American owners, the Coronado Beach Company, construction of the Coronado Hotel and railroad, turn-of-the-century beach recreation and "tent city," establishment of the state beach, changes brought by World War II, and subsequent increases in population and recreational use of the strand.

#### Visitor Facilities

Interpretive panels exhibited in outdoor kiosk shelters would constitute the major fixed interpretive facilities. These panels should be grouped into two distinct units -- one for the oceanside, the other for the bayside. They should be as impervious as possible to corroding elements and vandalism. By placing them in heavily used picnic and camping areas, they would be both well used and more protected from vandalism. These shelters should be designed to accommodate standard-size, interchangeable panels which can be rotated to interpret seasonal topics. Panels with coastwide themes should be shared with other state beaches to make the most use of interpretive resources and present a more dynamic interpretive program.

A campfire center, audio-visual projection screen, and sound system should be designed as part of the proposed campground near Crown Cove.

The mobile exhibit trailer proposed for use on the San Diego coast would complement the unit's interpretive effort. Exhibitry in the trailer would not be confined to two-dimensional panels, and interpretation could be more dynamic, covering in more detail such topics as marine terrace formation, ocean currents, sand movement, and erosion. Photographs and artifacts should be employed to give an idea of what beach recreation was like in southern California in earlier days.

In addition, flora and fauna could be interpreted for visitors through photographs or an audio-visual program. These would help to identify birds, marine mammals, and rarely seen plants and animals, and in illustrating the problems facing endangered species.

The trailer could become a roving interpretive center, useful not only at the state beaches but also at schools throughout the region.

#### Visitor Activities

Visitor activities involving interpretation at Silver Strand State Beach fall under the category of personal services, requiring trained interpretive personnel, docents, rangers, or lifeguards. Appropriate visitor activities for this unit include talks (on natural and historic resources and the State Park System), guided tours (beach walks and birdwatching), demonstrations (lifeguard rescue, aquatic safety, and surf fishing), and campfire programs (with audio-visual presentations on many appropriate themes). If a docent organization is established for Silver Strand State Beach, some of these activities could be led by volunteers.

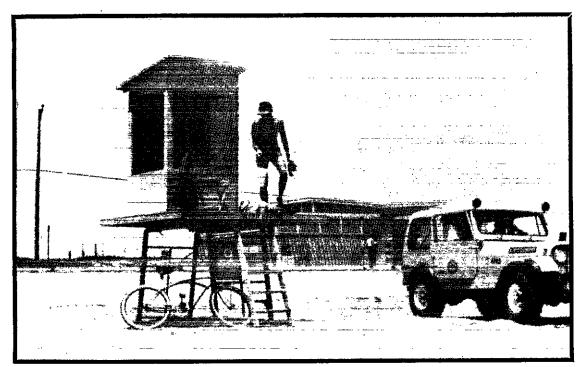
# Revenue-Generating Activities

A new unit brochure could be developed and sold either at the entrance kiosk or at coin-operated dispensers. A small entrance fee might be charged to visit the proposed interpretive trailer. Coin-operated telescopes could be installed at favorable locations for viewing bird life, ships, and other distant objects.

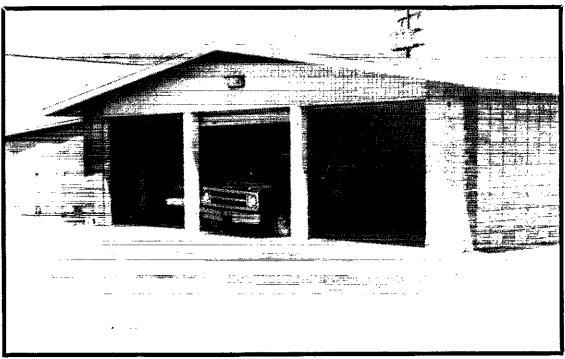
### Recommendations

- -- Fund, design, and construct outdoor interpretive exhibit kiosks for both oceanside and bayside areas.
- -- Create appropriate interpretive panels for installation at this unit.
- -- Develop a teachers aid packet to encourage and facilitate off-season visitation by school groups.
- -- Work with the State Department of Transportation (Caltrans) to provide regional orientation panels at roadside reststops along Interstates 5 and 8 in San Diego County. The panels would orient motorists and potential State Park System visitors to the diverse recreational opportunities offered in the system, and provide detailed information on the San Diego coast units.
- -- Encourage the formation of a volunteer group to provide personal services interpretation to visitors.
- -- Schedule beach walks, bird study walks, on- and off-site talks, dune walks, aquatic safety demonstrations, and surf fishing demonstrations.
- -- Design a campfire center equipped with audio-visual facilities as part of the proposed camping area at Crown Cove, and schedule evening programs.
- Work closely with the "Camp Able" sponsors and other organizations for disabled persons to encourage and facilitate their maximum use and understanding of Silver Strand State Beach. The unit can play a large role in serving their needs by presenting special interpretive programs. Fishing and birdwatching areas should be designed to be accessible to the disabled.
- Interpret endangered species of plants and animals to support preservation efforts. The beach lotus and the coastal strand plant community located near the proposed campground should be interpreted.
- -- Print interpretive literature and signs in Spanish. Make a special effort to orient Mexican visitors to other State Park System units, particularly those dealing with colonial Spanish and Mexican themes.

Operations Element



Bayside lifeguard stand and comfort station



Maintenance area

#### OPERATIONS ELEMENT

# Current Conditions

Silver Strand State Beach is in the department's Frontera management area, which has an office in Old Town San Diego. Other units supervised from this office include Border Field State Park, Old Town San Diego State Historic Park, and San Pasqual Battlefield State Historic Park.

At Silver Strand State Beach, staff currently:

- -- Operates 124 family picnic units and a contact station
- -- Provides lifeguard services on both the ocean and bay sides of the unit
- -- Enforces the law on state beach property with the exception of the 257 acres leased to the Navy
- -- Provides litter pickup on state beach property with the exception of the 257 acres leased to the Navy
- -- Maintains four parking lots, seven comfort stations, the entry roadway, three pedestrian tunnels, a unit office, and a lifeguard tower

## Future Conditions

Implementation of the proposals in the general plan will substantially increase the workload of the staff at the unit by adding the following tasks to present demands:

- -- Campground operation, including fee collection, grounds maintenance, and interpretive services
- -- Additional lifeguard responsibilities
- Additional resource protection responsibilities (for least tern nesting site and natural preserve)
- -- Increased law enforcement responsibilities, including harbor patrol if this function is not assumed by the San Diego Unified Port District
- Additional litter pickup (in 40-acre parcel leased from the U.S. Navy)
- -- Concession liaison responsibilities
- -- Maintenance of new roadways, paving, and boat launching facility

- Operation of one new contact station if new roadway tunnels prove infeasible
- -- Maintenance of 10 new comfort stations (three of these may be handled by a marina concessionaire)

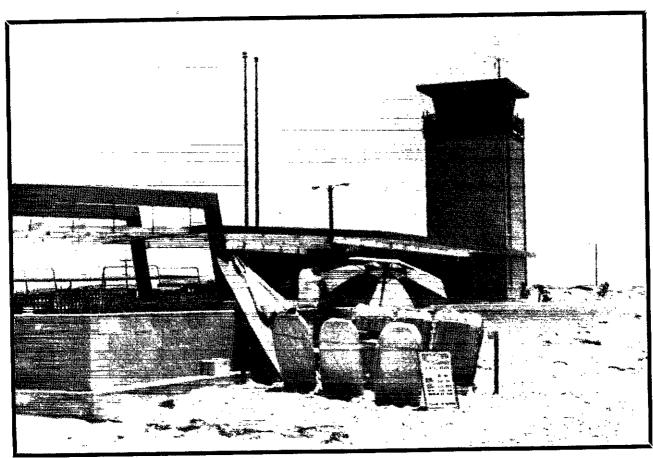
### Revenue Generation

If developed as proposed, the unit will produce additional revenue to help offset the expenses of added work responsibilities.

Additional revenue will be generated by increased visitation attracted by the improved visitor services and the better access to bayside facilities.

New revenue will come from operation of the camping facility, the sailboat launching facility, and the bayside group meeting facility. Additional funds will become available from the concession operation of the marina, small boat rentals, mooring slips, and the camp store/snack bar.

# Concessions Element



Existing beach rental concession

#### CONCESSIONS ELEMENT

# **Existing Concessions**

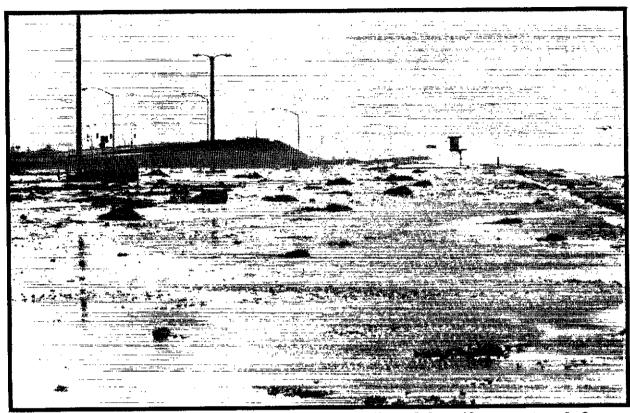
There is an oceanside snack stand and beach rental concession. There is also an unused concession building on the bayside; however, existing visitation is not sufficient to support an operation there.

# Proposed Concessions

The major proposal for a concession operation involves the construction and operation of a marina facility, including small boat rentals. It might also be desirable to install snack and beverage machines adjacent to berthing access points.

It is also proposed that a new bayside camp store/snack bar be operated in conjunction with the existing oceanside snack bar to provide a viable business.

# Environmental Impact Element



The future of the oceanside development will depend heavily on natural forces affecting sand replenishment.

#### ENVIRONMENTAL IMPACT ELEMENT

#### Explanatory Note .

In accordance with SB 1892, Chapter 615, this general plan (with this Environmental Impact Element) constitutes a report on the project for the purposes of the California Environmental Quality Act. The plan indicates management policies and development plans for Silver Strand State Beach. The Draft Environmental Impact Element (or Environmental Impact Report) analyzes and reports potential impacts of these policies and plans on the environment.

Because the general plan is broad in scope, the Draft Environmental Impact Element is a broad, general assessment of environmental impacts. Should specific plans be proposed and budgeted for implementation, more detailed environmental assessments will be prepared along with documentation required by the California Environmental Quality Act. The level of detail of this Environmental Impact Element corresponds to that of the general plan (California Administrative Code, Section 15147).

This Draft Environmental Impact Element has been prepared according to the amended mandates of the California Environmental Quality Act, which call for an objective assessment of the proposed project's environmental consequences. Those aspects of the proposed project with the greatest potential to cause an adverse change in the environment have been emphasized. Existing environmental conditions and effects that are not expected to cause a substantial adverse change in the environment are briefly discussed. Also, published documents such as county general plan elements and local coastal plan elements are incorporated into this report by reference to avoid unnecessary repetition.

Pursuant to the Public Resources Code, Section 5002.2a, and the California Administrative Code, Section 15147, and also to avoid needless repetition, the Environmental Impact Element incorporates by reference all information contained in the preceeding elements of this document.

To begin the general plan process, the inventory of features of a State Park System unit (a documentation of the unit's natural, cultural, and recreational resources) is critically analyzed in terms of the purpose, philosophy, and objectives of the unit. Specific policies for the management of the unit's resources are then formulated. (The inventories of features for all units in this general plan are on file with the department's Resource Protection Division in Sacramento.) State Park System planners then work within the framework of the Resource Element to develop unit plans.

Development proposed for this unit reflects the policies presented in the Resource Element of this plan. User facilities that have been selected will promote public use and encourage enjoyment of the unit without impairing or devastating its natural or cultural values. Throughout this planning process, a continuing analysis of possible impacts is made so that mitigating measures, such as decreasing use intensity, can be designed into the general plan to provide recreational opportunities to complement and preserve the unit's valuable resources.

# Description of the Project

Please refer to the Land Use and Facilities Element.

# Description of the Environmental Setting

Please refer to the Resource Element for descriptions of topography, climate, hydrology, geology, soils, biota, and other resources.

For information on land use, see the Land Use and Facilities Element.

#### Air Quality

Silver Strand State Beach is located in the South Coast Air Basin.

The overall air quality of San Diego County is good. During 1981, California Air Quality Standards were equaled or exceeded for three pollutants: ozone, nitrogen dioxide, and particulate matter. The ozone standard was equaled or exceeded 192 days, nitrogen dioxide one day, and particulate matter 41 days during the year.

Ozone is the most important atmospheric pollutant in San Diego County. A major reason for the high levels of ozone in the county is the pollutant transport from more densely populated areas to the north in Los Angeles, San Bernardino, and Orange counties. Ozone levels are lower along the coast and increase inland.

Automobile exhaust is the major source for nitrogen dioxide, sulfur dioxide, and carbon monoxide. The major sources for particulate matter are the automobile, sea salt along the coast, and erosion from agriculture.

The closest air quality monitoring station to Silver Strand State Beach is in the City of Chula Vista, about 9 miles to the southeast. At the Chula Vista Monitoring Station, the California Air Quality Standards for ozone and particulate matter were equaled or exceeded during 1981 on 21 days and 5 days, respectively. During 1979, the standards were equaled or exceeded 25 days for ozone and one day for particulate matter.

Due to the location of Silver Strand State Beach, its air quality should be equal to, if not better than, Chula Vista's.

#### Noise

The major sources of noise at Silver Strand State Beach are vehicle traffic, human activity, and the surf.

Highway 75, a four-lane highway, is adjacent to beach parking areas. The highway is about 250 feet from the edge of the beach just beyond the parking area. Highway noise experienced by visitors to the unit is in the 60-65 dBA range.

A U.S. Naval Air Station is 5 miles north of the unit. Takeoff and landing routes do not pass directly over the state beach. However, training missions fly over the unit. Noise is in the 67-97 dBA range.

### Human Community Factors

The 1980 census (as revised) showed Coronado's population at 18,790, including 15,703 White, 314 Black, and 782 of Spanish origin. Of the total population, 46% are female.

Coronado has 4,301 families, of which 4,158 are White, 45 Black, and 120 of Spanish origin.

Between 1970 and 1980, Coronado declined 6.1% in population (20,020 - 18,790) due to a greater numerical decrease in the military population on the amphibious base.

#### Public Services

#### Water and Sewer

Water is supplied to Silver Strand State Beach by the California American Water Company. As of February 1983, the water company was not at capacity, and there were no restrictions on new connections to the system.

The City of San Diego provides sewer service to the unit. The sewage is pumped from Coronado across San Diego Bay to Point Loma and then to the city's treatment plant. As of February 1983, the system was not at capacity, and there were no restrictions for new connections.

#### Traffic

Access to Silver Strand State Beach is via State Highway 75, a four-lane divided highway (two lanes northbound and two southbound), which connects the cities of Coronado, San Diego, and Imperial Beach. The average daily traffic (ADT) for Highway 75 during 1980 and 1982 was 20,515 and 20,258 vehicles, respectively.

Highway 75 carries commuter traffic during the week. On weekdays, northbound lanes have an ADT of 12,000. The peak hours are 6 a.m. - 7 a.m. and 7 a.m. - 8 a.m., with an average of 1,932 vehicles an hour. Southbound lanes have an ADT of 9,000, with the peak hours 3 p.m. - 4 p.m. and 4 p.m. - 5 p.m. averaging about 1,505 vehicles an hour.

Traffic on weekends is considerably less. For example, during a weekend in April 1982 the northbound lanes carried a two-day total of 17,800 vehicles, while the southbound lanes recorded 14,060 trips.

#### Fire/Paramedic

The City of Coronado provides fire-fighting service to Silver Strand State Beach. There are two fire stations in the vicinity, one at 1001 Sixth Street, between Orange Avenue and "D" Avenue (about six miles from the state beach), the other at Coronado Cays, across the street from the beach entrance. Response time for the fire department is about five minutes.

Routine first-aid is administered to beach visitors by State Park System personnel. In cases of life-threatening injuries, the City of Coronado Fire Department is called. The fire department does not have paramedic personnel; however, the fire station on Main Street is staffed by emergency medical

technicians. Response time from the station is about 10 minutes. Victims are transported either to Tri-City Hospital in San Diego or Coronado Hospital in Coronado.

#### Police

Law enforcement at Silver Strand State Beach is handled primarily by State Park System personnel. Both state park lifeguards and rangers are designated as state park peace officers and are responsible for law enforcement on State Park System lands. Coronado City Police provide back-up. The closest police station is at 578 Orange Avenue, about 3-4 miles from the unit. Response time is about four minutes. Usually, there is a police unit patrolling the area.

#### Cultural Resources

For information on Native American and Euroamerican resources, please refer to the Resource Element.

#### Scenic and Recreational Values

Please refer to the Resource Element.

# Environmental Impacts of the Proposed Project

# Significant Environmental Effects

- 1. Ground surface will be altered by spoil material and grading.
- 2. Impermeable surface area will increase.
- 3. Marine and vehicle traffic will increase.
- 4. Water pollution will increase.
- A portion of\_the bay will be dredged.
- Vegetation will be destroyed.

Development in Area 2 will include campgrounds (family, group, and bike-in), parking facilities, sanitation facilities (comfort stations and trailer sanitation stations), marina development, harbor master complex, and possibly a new bayside entry into the area. Construction of these facilities will require dredging, grading, and other site work. The ground surface will be altered and vegetation will be destroyed. The amount of paved surface area, such as parking lots, camping spurs, and roads, will be increased, resulting in an increase in the volume and velocity of surface water runoff. The increased quantity and velocity of surface water runoff will also mean an increase in the erosion potential.

Pollution from surface water runoff from parking areas (oil and asbestos), visitor activities, and marina development (sewage, petroleum products, and litter) will increase. During construction, dust will be released into the atmosphere. When development is completed, there will be an increase in air pollution from automobile and boat exhausts, refueling facilities, and campfire smoke.

#### Impacts on Vegetation

A large amount of vegetation will be destroyed by construction of facilities such as parking lots, campsites, roads, marinas, and day-use areas, which will require extensive site work. Development of Area 2 could affect rare or endangered plant species.

# Impacts on Geology and Soils

Marina development will require extensive sand movement by dredging or other mechanical means. Materials removed to create the marina basin will be deposited on site if the materials are suitable. They will be distributed over part of the site or over the entire area depending on the amount of spoil materials produced and landscaping needs. Removal of spoil material from the site is not anticipated. In Area 3, a portion of the parking area will be removed and allowed to return to a natural condition.

For a short period following construction, an increase in wind- and water-caused erosion is expected, which will persist until landscape vegetation becomes established.

#### Impacts on Hydrology

Development will increase the amount of impermeable surface area, which will increase the quantity of surface water runoff.

#### Impacts on Land Use

The use of Area 2 will change from military open space to multiple-use recreational.

#### Impacts on Recreational Values

The recreational value of Silver Strand State Beach will be improved through rehabilitation of existing facilities and development of new camping, day-use, and marina facilities.

# Mitigation Measures Proposed to Eliminate or Minimize Effects

- 1. Endangered plants in Area 2 will be protected by fencing or other means.
- The areas to be developed will be landscaped with native species.
- 3. Standard erosion reduction measures will be used to lessen the amount of erosion.
- 4. Surface water runoff will be directed to percolation strips or a similar type of structure.
- 5. During dredging operations, measures will be taken to reduce the amount of sediment released into San Diego Bay. State water quality control regulations will be met.
- 6. The refueling operation will be conducted in accordance with state water, air, and health regulations.

7. The local harbor jurisdiction will be consulted about increased traffic and appropriate mitigation measures.

# Unavoidable Environmental Effects

- 1. Nonrenewable resources will be used.
- 2. Vehicle and boat traffic will increase.
- 3. Impermeable surface area will be enlarged and surface water runoff will increase.
- 4. Air and water pollution will be greater.
- 5. The topography will be altered.
- 6. Vegetation will be removed.
- Sewage and solid waste will increase.

# Alternatives to the Proposed Project

- 1. NO PROJECT: This alternative, which would allow the status quo to continue, was rejected because it does not allow for the development of a variety of quality facilities to meet the recreational needs of the people.
- 2. DEVELOP CAMPING BUT NO MARINA: If this alternative were selected, camping would be developed but the marina and related facilities would not be constructed. Surface modification and vegetation removal would take place. There would be an increase in impervious surface area and surface water runoff. Demand for utilities and water would increase. Additional sewage would be generated.

In comparison to the proposed project, this less-costly alternative requires no dredging and produces less water pollution. There would be no increase in boat traffic on San Diego Bay. However, this alternative was rejected because it does not allow the Department of Parks and Recreation to provide recreational facilities to meet public demands for water-related recreation.

3. DEVELOP MARINA BUT NO CAMPING OR DAY-USE: Marina development will require dredging part of San Diego Bay and considerable site work. Vegetation will be covered by spoil materials or graded for the placement of parking facilities. There will be an increase in both vehicle and vessel traffic. The amount of air and water pollution and the demand for utilities and water will increase. The amount of sewage will be greater than at present.

In comparison to the proposed project, this alternative will require less ground surface modification and new pavement. As a result, surface water runoff will be less.

This alternative was not selected because it does not provide for the development of facilities to help meet public demand for camping.

# The Relationship Between Local Short-Term Use of Man's Environment and the Maintenance of Long-Term Productivity

The current short-term use of Silver Strand State Beach is for beach-related recreation. If the property was not in the State Park System, it would most likely be developed for residential or commercial uses or be used by the military.

The short-term uses of the land proposed in the general plan include measures designed to improve and protect unit resources. Therefore, these uses will protect the land's long-term productivity. The relationship between short-term use and long-term productivity is complementary, one in which the short-term use retains and expands the environment's long-term productivity.

# Irreversible Changes and Irretrievable Commitments of Resources Which Would be Involved Should the Project be Implemented

If future demands or environmental priorities change, and this site is deemed more suitable for some other use, the area will not have been altered enough by project implementation to preclude changes in its use. Some undeveloped land will be used for camping and day-use facilities and a marina. Some wildlife and vegetation resources will probably be lost or displaced due to the development or increased visitation. Some nonrenewable resources will be lost in the form of oil, gasoline, and other products required to produce energy necessary to complete the proposed development, and in the form of construction materials.

# Growth-Inducing Impacts of the Proposed Project

The development outlined in this general plan will improve the quality of recreational experiences available to state beach users. It is not considered growth inducing.

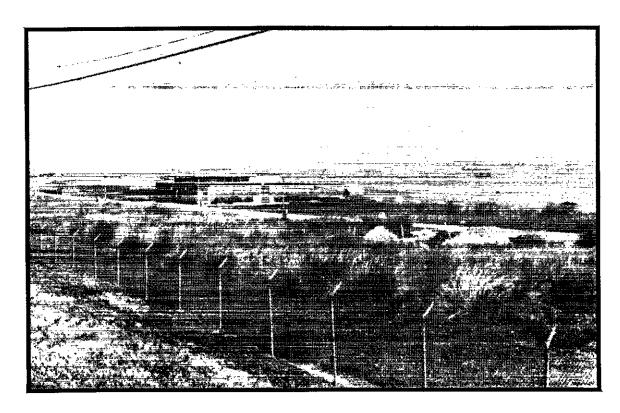
# Effects Found Not to be Significant

The general plan proposal will not have significant adverse impacts on the following: climate, population, community development, economics, water and sewer services, police and fire services, cultural resources, or scenic values.

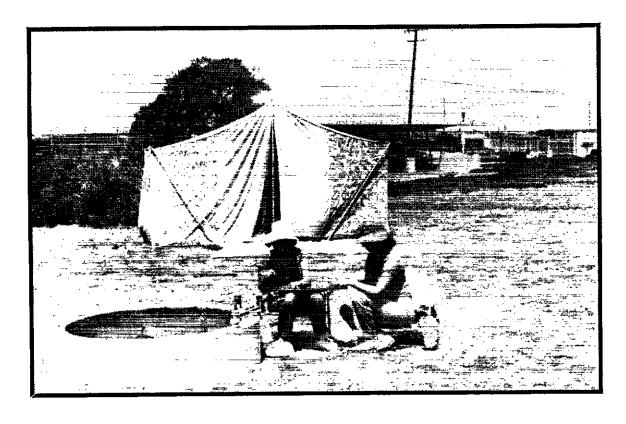
# Organizations Consulted

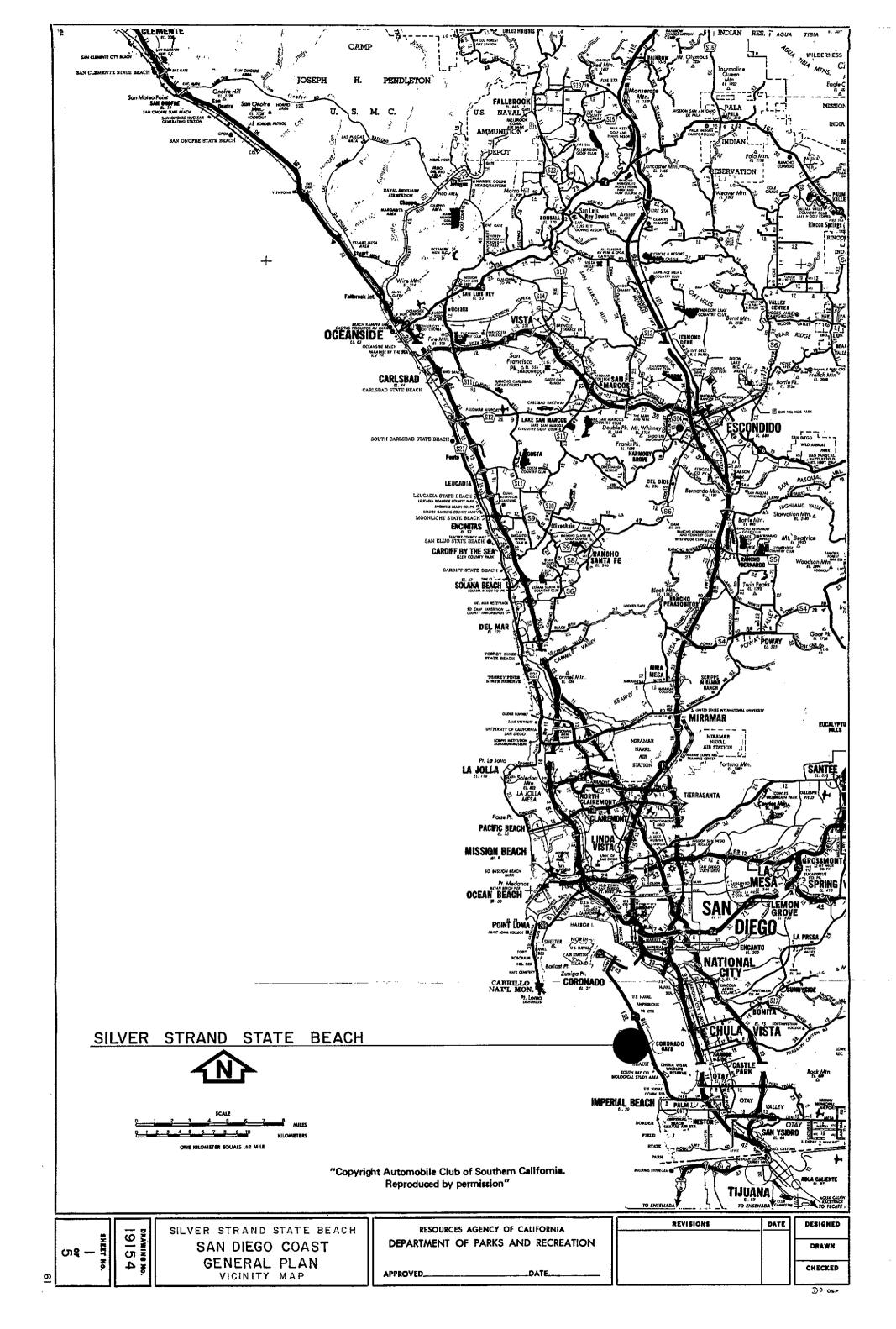
California Department of Boating and Waterways
California Department of Fish and Game
California Department of Housing and Community Development
California Department of Transportation
City of Coronado Department of Public Works
City of Coronado Fire Department
City of Coronado Planning Department
City of Coronado Police Department
Southern California Association of Governments

Maps



The bayside area offers opportunities for major recreational development.







CHECKED

63

EXISTING FACILITIES MAP

APPROVED.



GEND

AREA

● NO DEVELOPED FACILITIES IN THIS AREA

- DPR BOUNDARY

PHOTO BASE COURTESY OF THE DEPARTMENT OF NAVIGATION AND OCEAN DEVELOPMENT. PHOTO BASE DATE 4-23-78.

ALE IN FEET

SILVER STRAND STATE BEACH

SAN DIEGO COAST GENERAL PLAN EXISTING FACILITIES MAP

RESOURCES AGENCY OF CALIFORNIA DEPARTMENT OF PARKS AND RECREATION REVISIONS DATE

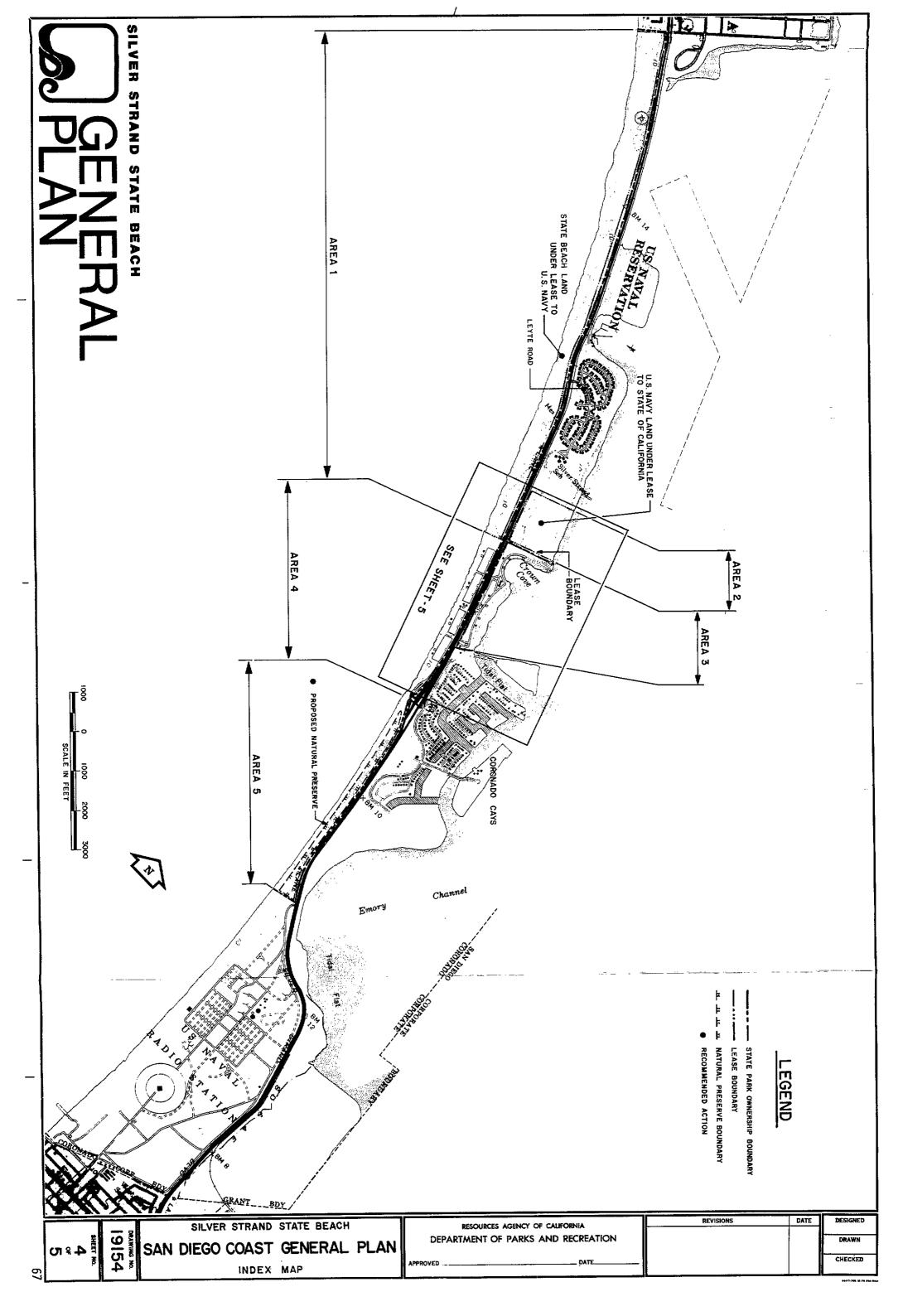
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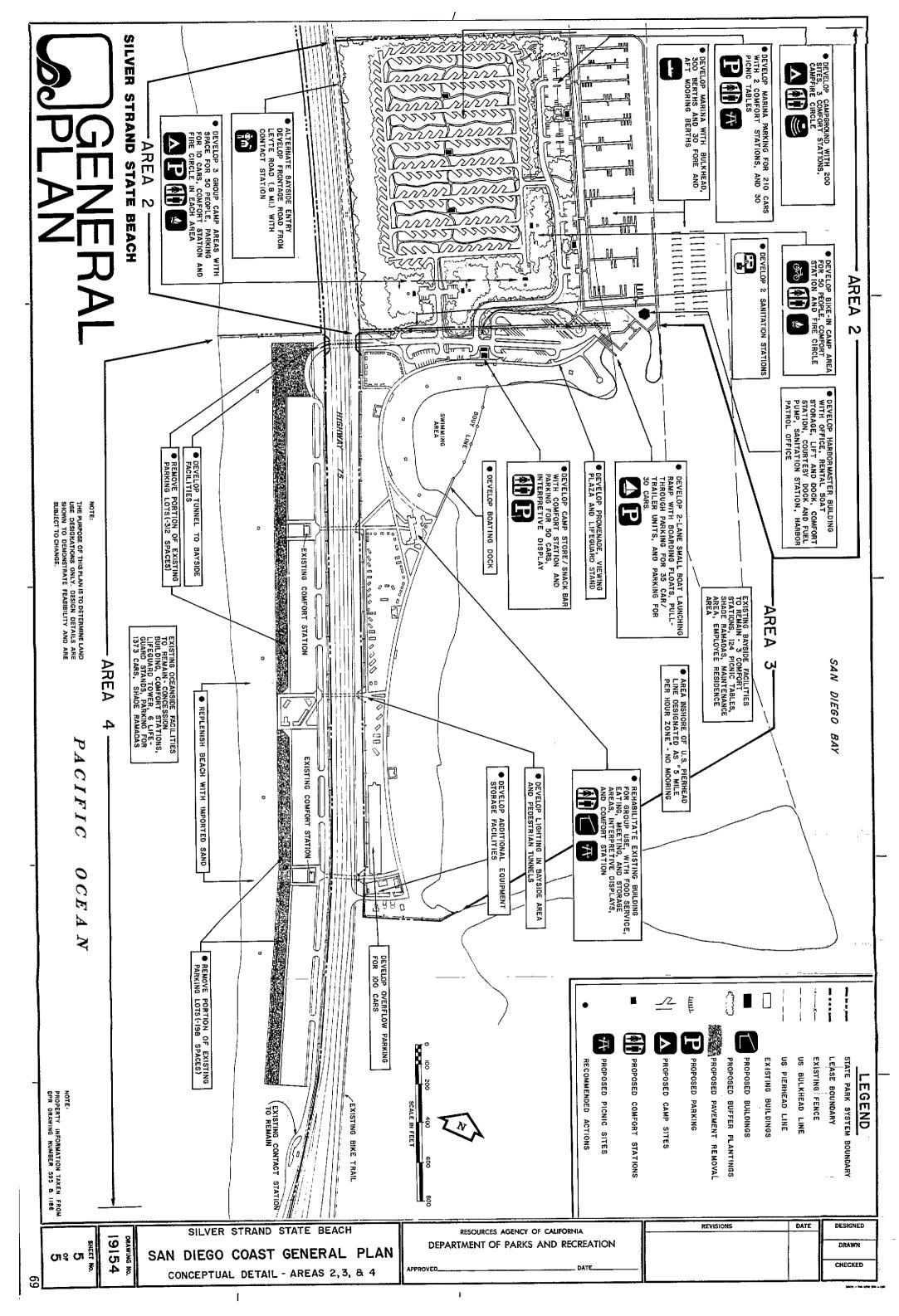
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AREA-5





#### THE SAN DIEGO COASTAL STATE PARK SYSTEM GENERAL PLAN

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